

Experimental Marine Forecast Matrix

Product/Service Description Document (PDD)

TYPE: Experimental Product

DATE: July 7, 2004

Part 1 – Mission Connection

1. Product Description – The National Weather Service (NWS) Marine Forecast Matrix (MFM) provides a tabular forecast of wind direction and speed, swell direction and height, wind wave height, significant wave height, cloud cover, probability of precipitation, and areal precipitation coverage.

2. Purpose – The Marine Forecast Matrix is derived from forecast weather parameters produced with the Graphical Forecast Editor. It is a marine version of the existing Point Forecast Matrices and provides a point matrix forecast for locations (i.e., buoys) of interest/concern to mariners.

3. Audience – The target audience for this experimental product is the marine community. The product can be seen on-line at
<http://www.prh.noaa.gov/hnl/gfe/TEXT/WRKMFMGFE>

4. Presentation Format – The Marine Forecast Matrix is a text product. It will be made available via the internet.

5. Feedback Method – Comments regarding the Marine Forecast Matrix should be sent to the feedback e-mail address on the web page containing the product. Technical comments may be addressed to :

National Weather Service
2525 Correa Road Suite 250
Honolulu, HI 96822
Attn: James Weyman
or e-mail comments to: james.veyman@noaa.gov

Part 2 – Technical Description

1. Format and Science Basis – The Marine Forecast Matrix is a forecast for the next 60 hours in 3 hourly resolution of the following weather elements:

Wind Direction (WIND DIR) - prevailing direction from which the wind is blowing from for that hour using 8 standard compass directions

Wind Speed (WIND SPD) – average sustained wind speed in knots

Swell Direction (SWELL DIR) – direction from which the dominant ocean swell is coming from using 8 standard compass directions

Swell Height (SWELL HGT) – open ocean swell height measured from trough to crest in feet.

Wind Wave Height (WIND WAVE HT) – height of waves in feet that are generated from the action of wind on the local water surface

Significant Wave Height (SIG WAVE HT) - average height from trough to crest in feet of the one-third highest waves

Cloud Cover (CLOUDS) – Average Sky cover for that period using the following codes: CL = Clear (0-5% cloud coverage)

FW = Few Clouds (5-30% cloud coverage)

SC = Scattered Clouds (30-70% cloud coverage)

BK = Broken Clouds (70-95% cloud coverage)

OV = Overcast (95-100% cloud coverage)

Probability of Precipitation (POP 12 HR) - Chance of precipitation in the 12 hours ending at the hour listed

If forecast, these elements will also appear:

Wind Gust (WIND GUST) – peak wind gust in knots forecast for the time period

Obstruction to Visibility (OBVIS) – if fog (F) or haze (H) is forecast to occur, the code will be listed in the appropriate column.

Weather Types - These codes will only appear if at some point during the time of the forecast they are expected to occur. If they do appear, a letter code will provide information about the forecast likelihood of that precipitation type

Weather Codes

RAIN

RAIN SHWRS (Rain Showers)

SPRINKLES

TSTMS (Thunderstorms)

DRIZZLE

SNOW

SNOWSHWRS (Snow Showers)

SLEET

Probability Codes

S = Slight Chance (0-20%)

C = Chance (30%-50%)

L = Likely (60%-70%)

O = Occasional/Periods of (80%-100%)

D = Definite (80%-100%)

Following is a sample product:

FXTEST PHFO 281345
MFMHFO

MARINE FORECAST MATRICES
NATIONAL WEATHER SERVICE HONOLULU HI
345 AM HST MON JUN 28 2004

PHZ130-290445-
CK FAD BUOY MAKAHUENA PT KAUAI
21.80N 159.35W
345 AM HST MON JUN 28 2004

DATE	MON 06/28/04								TUE 06/29/04								WED 06/30/04							
UTC 3HRLY	13	16	19	22	01	04	07	10	13	16	19	22	01	04	07	10	13	16	19	22	01	04		
HST 3HRLY	03	06	09	12	15	18	21	00	03	06	09	12	15	18	21	00	03	06	09	12	15	18		
WIND DIR	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
WIND SPD (KT)	18	18	21	21	20	20	18	18	19	19	21	21	20	20	22	22	21	21	20	20	18			
SWELL DIR	SW	SW	SW	SW	SW	SW	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
SWELL HGT	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
WIND WAVE HT	7	7	7	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8	7	7	7	7	7	7
SIG WAVE HT	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
CLOUDS	SC	SC	SC	SC	FW	FW	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC
POP 12HR						20				20				30				30						30
RAIN SHWRS	S	S	S	S				S	S	S	S	C	C	C	C	C	C	C	C	C	S	S	S	S

\$\$

2. Product Availability – The PFM is routinely issued with the mandatory forecast packages between 3 and 5 AM/PM local time however updates may be issued at any time as conditions warrant.

3. Additional Information - Forecast data from this experimental product is not intended to substitute for the official Coastal Waters Forecast (CWF) text which will also convey all marine advisory and warnings in effect (i.e. Gale Warnings). Rather it is intended to supplement the official forecast with higher resolution data at pre-determined locations.